

I CLAIM:

1. Apparatus for electrically connecting first and second conductors through an electrically insulating wall of an electrical box comprising:

a first wire terminal on an outside surface of said wall for receiving said first conductor;

a second wire terminal on an inside surface of said wall directly opposite said first wire terminal for receiving said second conductor;

a metal rod of conductive material passing through a penetration hole in said wall and both said first and second wire terminals for providing electrical connection between said first and second conductors, said metal rod having ends extending out from outer surfaces of said first and second wire terminals;

a metallic sleeve on said metal rod within said penetration hole;

a first o-ring surrounding said metallic sleeve adjacent the inside surface of said wall;

a second o-ring surrounding said metal rod along an outer surface of said second wire terminal; and

means capping the ends of said metal rod compressing said o-rings to insure that said first and second wire terminals are tightly joined through and to said wall in a water tight connection.

2. The apparatus of claim 1 in which a recess is molded into an inner side of said penetration hole to accommodate said first o-ring when compressed.

3. The apparatus of claim 2 in which the outer surface of said second wire terminal is provided with a recess surrounding said metal rod to accommodate said second o-ring when compressed.

4. The apparatus of claim 1 having a drip shield mounted on the outside of said wall covering said first wire terminal.

5 5. The apparatus of claim 4 having a set screw in said first wire terminal for tightening said first conductor within said first wire terminal, and an opening in said drip shield for providing access to said set screw.

10 6. The apparatus of Claim 1 wherein said metal rod is a closed end blind rivet facilitating rapid factory assembly and proper tensioning for electrical conduction and sealing.

15 7. The apparatus of Claim 1 wherein a set screw on said second wire terminal faces said electrical box cover opening for easy attachment of said second conductor.

8. Apparatus for electrically connecting first and second conductors through an electrically insulating wall of an electrical box in a water tight connection comprising:
20 a first wire terminal on an outside surface of said wall for receiving said first conductor;
a second wire terminal on an inside surface of said wall directly opposite said first wire terminal for receiving said second conductor;
25 a metal rod of conductive material passing through a penetration hole in said wall terminating in and integral with both said first and second wire terminals forming a one piece member.

30 9. The apparatus of claim 8 having a drip shield mounted on the outside surface of said wall covering said first wire terminal.

10. The method of electrically connecting first and second

conductors through an electrically insulating wall of an electrical box in a water tight connection comprising the steps of:

5 joining a conductive rod member at both ends with first and second wire terminals;

molding a wall of an electrical junction box made from electrically insulating material around said rod member to provide a water tight connection through said wall;

10 terminating a first electrical conductor in said first wire terminal; and

terminating a second electrical conductor in said second wire terminal.

11. The method of claim 10 including the step of using a set screw to bind said first electrical conductor to said first wire terminal.

12. The method of claim 11 including the step of using a set screw to bind said second electrical conductor to said second wire terminal.

13. The method of claim 11 including the step of covering said first wire terminal with a drip shield.

25 14. The method of claim 13 including the step of providing an opening in said drip shield to provide access to said set screw.

30 15. A kit for use in electrically connecting first and second conductors through an electrically insulating wall of an electrical box comprising:

a first wire terminal to be mounted on an outside surface of said wall for receiving said first conductor and having a hole passing therethrough, said first wire terminal having a face

adapted to abut said outside surface, said face having a molded-in-place elastomeric seal around said hole;

a second wire terminal to be mounted on an inside surface of said wall directly opposite said first wire terminal for receiving said second conductor, said second wire terminal having a hole therethrough to be aligned with the hole through said first wire terminal;

a drill bit for producing a penetration hole in said wall;
a lengthwise extending tape;

a machine screw of conductive material for use in passing through said penetration hole in said wall and said holes in said first and second wire terminals for providing electrical connection between said first and second conductors, said machine screw being of sufficient length to extend out from outer surfaces of said first and second wire terminals;

a metallic sleeve for use on said machine screw within said penetration hole;

threads on said second wire terminal engaging said machine screw for tightening said first and second wire terminals on said wall, compressing said elastomeric ring seal to insure a water tight connection; and

means mounted on said face of said first wire terminal to prevent said first wire terminal from rotating as said machine screw is tightened.

16. The kit of claim 15 having a drip shield for mounting on the outside of said wall for covering said first wire terminal.

17. The kit of Claim 16 wherein said drip shield is adhesively bonded to said outer surface of said electrical box while being temporarily held in place by said lengthwise extending tape until said adhesive sets.

18. The kit of claim 16 in which said drip shield has an opening through which a set screw in said first wire terminal may be tightened against said first conductor.